



Australian Bureau of Statistics

CensusAtSchool Australia

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Resources



CaSQ 12B - Pie Graph of Eye Colour by calculating angles

You can download this activity as a rich text file (RTF) using the link at the bottom of the page.

How to: Get a Random Sample from CensusAtSchool

Go to the CensusAtSchool Random Sampler to download a sample.

Reference year: *(select year)* **Sample size:** 100 students

Select questions: *Eye Colour*

Location: *Select location* **Year level:** *(select a range of year levels)*

To protect privacy there is a rule built into the sampler that the requested sample size cannot exceed 10% of the respondents for the parameters entered.

Task:

In the CensusAtSchool random sample find data for Eye Colour.

1. Record each colour and the frequency of students in a table like the one below. Write your fractions in simplest form.

Eye Colour	Tally	Frequency	Fraction	Number of degrees for each fraction <i>(see below)</i>
Brown				

Blue				
Green				
Grey				
Hazel				
Other				

A pie graph shows each fraction of the whole as a sector. Each sector can be measured as an angle. The whole circle angle is 360° . For each eye colour you need to calculate its fraction of the whole before you can work out the angle size of its sector.

2. Calculate the number of degrees needed for each sector to represent each eye colour and show your working in the table above.

For example, in a class of 24, if there were 18 people with brown eyes:

Eye Colour	Tally	Frequency	Fraction	Number of degrees for each sector (<i>see below</i>)
Brown		18	$\frac{18}{24}$	$\frac{18}{24} \times 360^\circ = 270^\circ$

3. Construct a circle or ask your teacher for a coloured circle and fold in half then fourths to locate the middle. Use a protractor and pencil to mark and draw the sector representing each eye colour on your pie graph.

Download the full activity:

RTF

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